

October 01, 2015

Tom Moe  
USS Corporation  
P.O. Box 417  
Mountain Iron, MN 55768

RE: Project: NPDES - Line 3 Weekly  
Pace Project No.: 1254030

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on September 23, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika  
heather.zika@pacelabs.com  
Project Manager

Enclosures

cc: Terri Sabetti, Northeast Technical



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

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### Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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## SAMPLE SUMMARY

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1254030001	WS-002 Scrubber Make-Up	Water	09/23/15 10:15	09/23/15 17:00
1254030002	WS-003 Thickener Overflow	Water	09/23/15 10:15	09/23/15 17:00

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## SAMPLE ANALYTE COUNT

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1254030001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V
1254030002	WS-003 Thickener Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V

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## ANALYTICAL RESULTS

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

Sample: <b>WS-002 Scrubber Make-Up</b> Lab ID: <b>1254030001</b> Collected: 09/23/15 10:15    Received: 09/23/15 17:00    Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 MET ICP, Lab Filtered</b> Analytical Method: EPA 200.7    Preparation Method: EPA 200.7									
Calcium, Dissolved	<b>88.6</b>	mg/L	5.0	0.29	10	09/28/15 13:50	09/30/15 09:48	7440-70-2	
Magnesium, Dissolved	<b>200</b>	mg/L	5.0	0.67	10	09/28/15 13:50	09/30/15 09:48	7439-95-4	
Total Hardness, Dissolved	<b>1050</b>	mg/L	100	50.0	10	09/28/15 13:50	09/30/15 09:48		
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>736</b>	mg/L	20.0	0.89	10		09/26/15 03:05	14808-79-8	

Sample: <b>WS-003 Thickener Overflow</b> Lab ID: <b>1254030002</b> Collected: 09/23/15 10:15    Received: 09/23/15 17:00    Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.7 MET ICP, Lab Filtered</b> Analytical Method: EPA 200.7    Preparation Method: EPA 200.7									
Calcium, Dissolved	<b>910</b>	mg/L	5.0	0.29	10	09/28/15 13:50	09/30/15 09:52	7440-70-2	
Magnesium, Dissolved	ND	mg/L	5.0	0.67	10	09/28/15 13:50	09/30/15 09:52	7439-95-4	
Total Hardness, Dissolved	<b>2280</b>	mg/L	100	50.0	10	09/28/15 13:50	09/30/15 09:52		
<b>300.0 IC Anions 28 Days</b> Analytical Method: EPA 300.0									
Sulfate	<b>1680</b>	mg/L	20.0	0.89	10		09/26/15 03:27	14808-79-8	

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## QUALITY CONTROL DATA

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

QC Batch: MPRP/5901

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1254030001, 1254030002

METHOD BLANK: 251582

Matrix: Water

Associated Lab Samples: 1254030001, 1254030002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	09/30/15 08:52	
Magnesium, Dissolved	mg/L	ND	0.50	09/30/15 08:52	

LABORATORY CONTROL SAMPLE: 251583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	51.2	102	85-115	
Magnesium, Dissolved	mg/L	50	51.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 251584

251585

Parameter	Units	1254191001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	227	50	50	284	281	114	108	70-130	1	20	
Magnesium, Dissolved	mg/L	129	50	50	182	182	106	107	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 251586

251587

Parameter	Units	1254191008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	227	50	50	284	280	114	106	70-130	1	20	
Magnesium, Dissolved	mg/L	130	50	50	182	179	105	99	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

QC Batch: WETA/13878

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1254030001, 1254030002

METHOD BLANK: 251256

Matrix: Water

Associated Lab Samples: 1254030001, 1254030002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	09/26/15 02:43	

LABORATORY CONTROL SAMPLE: 251257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 251258 251259

Parameter	Units	1253877001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2.4	50	50	52.2	52.2	100	100	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-V Pace Analytical Services - Virginia

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES - Line 3 Weekly

Pace Project No.: 1254030

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1254030001	WS-002 Scrubber Make-Up	EPA 200.7	MPRP/5901	EPA 200.7	ICP/4604
1254030002	WS-003 Thickener Overflow	EPA 200.7	MPRP/5901	EPA 200.7	ICP/4604
1254030001	WS-002 Scrubber Make-Up	EPA 300.0	WETA/13878		
1254030002	WS-003 Thickener Overflow	EPA 300.0	WETA/13878		

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MO#: 1254030

PM: HRZ

**Due Date: 10/07/15**

CLIENT: USS CORP

[illegible]

	Document Name: <b>Sample Condition Upon Receipt Form</b>	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: <b>F-VM-C-001-Rev.09</b>	Issuing Authority: Pace Virginia, Minnesota Quality Office

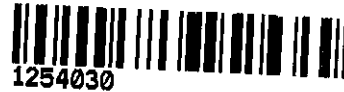
Sample Condition  
Upon Receipt

Client Name:

USS Corp.

Project #:

**WO#: 1254030**



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client  
☐ Commercial ☐ Pace ☐ Other: \_\_\_\_\_

Tracking Number: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Optional: Proj. Due Date: \_\_\_\_\_

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: \_\_\_\_\_ Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☐ Wet ☐ Blue ☐ None ☐ Samples on Ice, cooling process has begun

Cooler Temp Read °C: 6.3 Cooler Temp Corrected °C: 6.6 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA  
 Temp should be above freezing to 6°C Correction Factor: 0.3 Date and Initials of Person Examining Contents: CK 9/24/15

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>W</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Heaven 300

Date:

9/24/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)